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NO. 0768 P. 20  
Attorney Docket No.: 00306-00142

APPENDIX 1

Nufarm

## Material Safety Data Sheet

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Infocase No. NU003 Issue Date: January 2002 ISSUED by NUFARM  
Product Name: AF300 Herbicide

Classified as hazardous according to criteria of NOHSC

## COMPANY DETAILS

Company Name NUFARM AUSTRALIA LIMITED. (ABN 80 004 377 780)  
Address 103-105 Pipe Road Laverton North  
Victoria 3026 Australia  
Emergency Tel. 24hr 1800 033 498  
Tel/Fax Tel: (03) 9282-1000 Fax: (03) 9282-1001  
Other Information

## IDENTIFICATION

Product Code 0027  
Product Name AF300 Herbicide  
Proper Shipping Name FLAMMABLE LIQUIDS, N.O.S. - (2,4-dichlorophenoxyacetic acid/karopine)  
UN Number 1993  
DG Class 3  
Packing Group III  
Hazard Code 2Y  
Poisons Schedule 95  
Product Use For the integrated control of Groundsel bush, Mother-of-millions, Noogoora burr, Bathurst burr and water hyacinth and other weeds as listed in the Directions for Use Table.

## Physical Data

Appearance Light straw coloured limid liquid with typical hydrocarbon odour.  
Melting Point <0°C  
Boiling Point >160°C (for solvent)  
Vapour Pressure Active ingredient considered non-volatile  
Specific Gravity 1.03 - 1.05 (1.044)  
Flash Point 40°C  
Flamm. Limit LEL No information available

## Other Properties

Volatile Component ~23%  
Autoignition Temp. No information available  
Vapour Density No information available  
Form Liquid  
Other Information Emulsifies in water.

## Ingredients

Ingredients	Name	CAS	Proportion
	2,4-Dichlorophenoxy acetic acid	94-75-7	300 g/L
	Synthetic ethoxylated alcohol	68439-44-3	50 %
	Solvent 400		235 g/L

## HEALTH HAZARD INFORMATION

## Health Effects

Acute - Swallowed A significant hazard exists if the concentrate is accidentally swallowed. Absorption of relatively large amounts of 2,4-D can produce headaches, nausea, lethargy, motor weakness and inco-ordination. The concentrate is considered harmful if swallowed, when classified according to the Worksafe Criteria.

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Acute - Eye	The concentrate is irritating to the eyes. No permanent effects on the eyes is expected from a single exposure.
Acute - Skin	The concentrate is irritating to the skin. Prolonged or repeated exposure may cause defatting of the skin which could lead to secondary dermatitis. Some absorption of 2,4-D acid is possible if contact with the concentrate is prolonged.
Acute - Inhaled	Inhalation of solvent may lead to headache or nausea if exposure is prolonged. Avoid breathing spray mists.
Chronic	Chronic Over Exposure: Repeated absorption of relatively large doses of 2,4-D presents a risk to the liver and kidneys.
Other Information	If poisoning occurs, contact a Doctor or Poisons Information Centre 13 11 26

**First Aid**

Swallowed	If swallowed do NOT induce vomiting; seek medical advice immediately and show this container or label or contact the Poisons Information Centre on 13 11 26. Make every effort to prevent vomit from entering the lungs by careful placement of the patient. The above first aid instructions are mandated by the Commonwealth Department of Health and Aged Care via the National Drugs and Poisons Schedule. These instructions are suitable for ingestion of spray solution and small amounts of concentrate; however, if SUBSTANTIAL AMOUNTS of the concentrate have been swallowed (more than about 50ml) AND if medical assistance is more than 30 minutes away, the induction of vomiting should be CONSIDERED, preferably based on MEDICAL ADVICE if a physician can be contacted by phone. All care must be taken to prevent vomit from being inhaled. Do not give anything by mouth to a semi-conscious or unconscious person.
Eye	Immediately irrigate with copious quantity of water for at least 15 minutes. Eyelids to be held open.
Skin	Wash affected areas thoroughly with soap and water. Remove contaminated clothing and launder before re-use.
Inhaled	Remove victim to fresh air until recovered.

**Advice to Doctor**

Advice to Doctor	Treat symptomatically. Aspiration of vomitus may lead to pulmonary pneumonitis, which may be serious, especially in young children.
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**Other Health Hazard Information****PRECAUTIONS FOR USE**

Exposure Limits	No exposure limits have been set for this product, however, an exposure limit has been set for 2,4-D acid (solid) at 10 mg/m3
Eng. Controls	Handle the concentrate in a well ventilated space. Natural ventilation is adequate, although a local exhaust should be provided if material is handled in confined spaces.

**Personal Protection**

Protective Equip.	Avoid contact with eyes and skin. DO NOT inhale spray mist. When preparing spray wear PVC or rubber apron, elbow-length PVC gloves and face shield. When using the prepared spray wear face shield. If product on skin, immediately wash area with soap and water. After use and before eating, drinking and smoking, wash hands, arms and face thoroughly with soap and water. After each day's use, wash gloves, face shield and contaminated clothing.
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**Flammability**

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Fire Hazards Flammable 46°C (Abel L.C.) for solvent present.

**SAFE HANDLING INFORMATION****Storage and Transport****Storage and Transport Details:**

Proper Shipping Name: Flammable liquid, n.o.s. (2,4-dichlorophenoxyacetic acid)  
 UN No. 1993 Class: 3  
 Packaging Group: III Hazchem: 2Y  
 FLAMMABLE  
 Avoid all sources of ignition including static electricity buildup during transfer operations.  
 Store in original container, tightly sealed, in a safe place away from seeds, fungicidal and insecticidal sprays or fertilizers.  
 Proper Shipping Name: FLAMMABLE LIQUIDS, N.O.S. - (2,4-dichlorophenoxyacetic acid/kerosene)  
 EPC Number 3A1

**Spills and Disposal**

Spills & Disposal Contain spill and absorb with sand or proprietary absorbent (vermiculite).  
 Prevent from entering drains, waterways or sewers.  
 Collect in sealed open top containers for disposal.  
 Triple rinse containers, add rinsate to the spray tank, then offer container for recycling/reconditioning, or puncture top, sides and bottom and dispose of in landfill in accordance with local regulations. On-site disposal of concentrate is not acceptable.

**Fire/Explosion Hazard**

Fire/Explos. Hazard Extinguishing Media: Water fog, dry chemical, foam, CO<sub>2</sub>.  
 Special Fire Fighting Procedures: Breachable air apparatus may have to be worn if material is involved in fires especially in confined spaces.  
 Keep upwind.  
 Unusual Fire and Explosion Hazard: May emit toxic fumes of hydrogen chloride, phosgene and carbon monoxide if material is involved in fires or subjected to extreme heat.  
 Hazardous Reaction Store away from oxidising agents, may react violently with strong oxidising agents.  
 Polymerisation is not possible.

Hazchem Code 2Y

**OTHER INFORMATION**

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Product Name: AR300 Herbicide

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**Toxicology**

2,4-D (2,4-dichlorophenoxyacetic acid)  
 LD50 (oral, rat): 699mg/Kg  
 LD50 (dermal, rabbit): >2,000mg/Kg  
 LC50 (inhalation, rat): >1.79mg/L (4hr) (maximum attainable concentration)  
 Not toxic to bees  
 LC50 (rainbow trout): ~100mg/L  
 LC50 (daphnia): 1.4mg/L  
 LC50 (mallard duck): >5,000mg/Kg diet  
 In trials using 2,4-D as a drug, studies on volunteers have shown that doses of between 5 and 36mg/Kg body weight do not cause any acute toxic effects. Formulated 2,4-D products can be absorbed by ingestion, inhalation (spray mist) and through the skin. Studies of users (sprayers) have shown that absorption through the skin is the most common route. When used with good agricultural spraying practice and good personal hygiene, absorption of 2,4-D is very low.  
 2,4-D does not accumulate in the body; a single dose of 2,4-D is rapidly excreted (in a few days), mainly in the urine.  
 The Australian Acceptable Daily Intake (ADI) of 2,4-D for a human is 0.01mg/kg/day, set for the public for daily, lifetime exposure. This is based on the NOEL of 1.0mg/kg/day, the level determined to show no effects during long term exposure for the most sensitive indicators and the most sensitive species. (Ref: Comm. Dept. of Health and Aged Care, 'ADI List', TGA, August 2001).

**Environ. Protection**

2,4-D products do not appear to pose any threat to birds.  
 2,4-D products do not appear to pose any threat to fish other than in very high concentrations.  
 DO NOT spray in high winds. Do not contaminate dams, waterways or streams with this product or used containers. DO NOT use this container for any other purpose. After use, triple rinse containers. Add rinse to the spray tank, then offer container for recycling/reconditioning, or picture top, sides and bottom and dispose of in landfill in accordance with local regulations. On-site disposal of concentrate is not acceptable.  
 Equipment that has been used for this product should not be used for the application of other materials to sensitive plants, unless it has been well washed out with hot, soapy water or 1% ammonia solution, followed by several clear water rinses.  
 Do not use on or in situations where damage to susceptible crop plants such as cotton, tobacco, tomatoes, flowers, vines fruit trees or other susceptible crop plants may result from direct application or spray drift.

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**Pkg. & Labelling** **WARNING**  
 KEEP OUT OF REACH OF CHILDREN  
 READ SAFETY DIRECTIONS BEFORE OPENING  
 Not to be used for any purpose or in any manner contrary to the label unless  
 authorized under appropriate legislation.  
 The product has been assessed according to the Workplace criteria for  
 classifying hazardous substances and is classified as hazardous.  
**Risk Phrases:**  
 R10 Flammable  
 R22 Harmful if swallowed  
 R36/37/38 Irritating to eyes, respiratory system and skin  
 R65 Harmful; may cause lung damage if swallowed  
**Safety Phrases:**  
 S2 Keep out of reach of children  
 S23 Do not breathe vapour  
 S24 Avoid contact with skin  
 S26 In case of contact with eyes, rinse immediately with plenty of water  
 and seek medical advice  
 S36/37 Wear suitable protective clothing and gloves  
 S62 If swallowed, do not induce vomiting; seek medical advice immediately  
 and show this container or label. Refer to First Aid section.

**CONTACT POINT**

Contact	Normal Hours: Mr Volker Maier	Phone: (03) 9782 1000
	After Hours: Shift Supervisor	Phone: 1800 033 498
	...End Of MSDS...	

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